

Executive Session
Director's CD-2/3a Mini-Review of
the
MINERvA Project

November 2, 2006
L. Edward Temple, Jr.

Agenda for Exec Session

- Charge to Reviewers
- Review Agenda
- Assignments
- Cost/Schedule Review Guidance
- Cost / Contingency / Profile Tables
- Reporting Out Structure
- Discussion

Charge

This charge is for the Committee to conduct a Director's CD-2/3a Mini-Review of the proposed MINERvA project at Fermilab. The review is to assure that all the requirements have been met for DOE to approve CD-1/2/3a. The DOE CD-1/2/3a 1 day review has been scheduled for December 5, 2006 in Germantown. The main focus of this mini-review is to assure that MINERvA has properly addressed the recommendations from the August 1-3, 2006 Director's CD-2/3a Review and that the resulting update to the cost and schedule baseline is credible and ready for the DOE review.

In carrying out this charge the Review Committee should respond to the following questions:

1. Has MINERvA appropriately responded to the recommendations from the August, 2006 Director's CD-2/3a Review and have they suitably implemented the resulting corrective actions?
2. Is the cost and schedule baseline credible and supported by the Resource Loaded Schedule (RLS), the Bases of Estimate (BOE) and the project costing tool?
3. Has the cost and schedule baseline information been appropriately incorporated into the project documentation (e.g. Project Execution Plan (PEP), Acquisition Strategy (AS), and the Project Management Plan (PMP))?
4. Is the MINERvA Project appropriately prepared for a DOE CD-1/2/3a Review?

In addition to answering the above questions, the Committee is asked to assess MINERvA's "Scorecard" that will be discussed at the DOE Review to substantiate how MINERvA meets the Critical Decision (CD) requirements. Constructive comments on the Scorecard's content, format, and style are requested.

Finally, the committee should present their conclusions at a closeout meeting with MINERvA's and Fermilab's management.

Agenda

Racetrack – WH7X

8:30 – 9:00 AM	30	Executive Session	Ed Temple
9:00 – 9:45 AM	45	Scorecard for Independent Project Review (IPR)	Deborah Harris
9:45 – 10:30 AM	45	Response to October 2006 Director's Review Recommendations	Deborah Harris Ron Ransome* Kevin McFarland Bob Bradford
10:30 – 10:45 AM	15	BREAK	
10:45 – 11:15 AM	45	Response to October 2006 Director's Review Recommendations (continued)	Deborah Harris Ron Ransome* Kevin McFarland Bob Bradford
11:15 – 12:00 AM	45	Cost and Schedule Drilldowns	Deborah Harris T. J. Sarlina
12:00 – 1:00 PM	60	LUNCH BREAK	
1:00 – 2:30 PM	90	Executive Session	Ed Temple
2:30 – 3:00 PM	30	Closeout	

*via Conference Phone

Reviewer Focus Areas

Executive Summary		Ed Temple
Scorecard		All
Recommendation Responses		
Science	#1-3	Ed Temple
Scintillator Extrusions, WLS Fiber and Clear Fiber Cables	#4,5 and 7 #6	Dean Hoffer Mike Lindgren
Plane Assembly, Outer Detector Frame, Absorbers, Stand and Module Assembly	#8	Elaine McCluskey
PMT's and PMT Boxes	#9-13	Mike Lindgren,
Electronics & DAQ	#14-18	
Cost	#19-29	Marc Kaducak,
Schedule	#30-33	Bill Freeman
Management	#34-41	Elaine McCluskey
Cost and Schedule Drilldowns		All
Charge Questions		
1. Has MINERvA appropriately responded to the recommendations from the August, 2006 Director's CD-2/3a Review and have they suitably implemented the resulting corrective actions?		Mike Lindgren and All
2. Is the cost and schedule baseline credible and supported by the Resource Loaded Schedule (RLS), the Bases of Estimate (BOE) and the project costing tool?		Marc Kaducak, Bill Freeman and All
3. Has the cost and schedule baseline information been appropriately incorporated into the project documentation (e.g. Project Execution Plan (PEP), Acquisition Strategy (AS), and the Project Management Plan (PMP))?		Elaine McCluskey and All
4. Is the MINERvA Project appropriately prepared for a DOE CD-1/2/3a Review?		All

Cost/Schedule Review Guidance

These are Baseline Requirements.

The cost/schedule reviews are key elements of the Performance (Technical, Cost, Schedule) Baseline Reviews.

Project Technical, Cost, and Schedule Baseline Development

To Succeed in Cost / Schedule Arena

Estimate must be

Complete

- Scope well understood and defined

 - Technical goal must be clear

 - Technology to be used to meet this goal known

 - Designate how technical systems will be acquired

 - I.e. buy, have fabricated, self fabricated

 - Buy parts / fabricate / assemble

 - How will this be accomplished

 - Self fabricate / assemble – lab or university(ies)

 - How will person power requirements be met

 - And paid for

 - All tasks defined and specified in a work breakdown structure

 - WBS dictionary

Documented at lowest level of WBS and include

 - M&S – materials and services

 - SWF – salaries, wages, & fringes

 - Accompanied by schedule showing appropriate durations

 - Adders – overheads / G&A (general & administrative)

 - Escalated – shown both with and without escalation with funding

 - profile based on laboratory/DOE/Federal

 - budget/appropriation guidance

 - BOE – Bases of Estimate

Cost/Schedule Review Guidance

(Continued)

Reviewable

Estimate must “roll-up” from the lowest level to the total and reviewers must be able to drill down from the top to the lowest level

Credible

Basis of estimate must be specified

- Catalog prices

- Similar work, where cost is documented

- Engineering estimates

- WAG – wild ass guess

This material forms basis for DOE approving a baseline, for Fermilab/Collaboration Project Management to measure performance and take appropriate corrective actions during execution and for Laboratory Management and DOE to monitor progress.

Project's Cost & Contingency Estimate from August 1-3. 2006 Director's Review

WBS	Items	MINERvA's Cost Estimate AYk\$									
		Base w/Indirects			Contingency %			Contingency \$			Total Base w/Indirects
		M&S	Labor	Total	M&S	Labor	Total	M&S	Labor	Total	
M I E	1.0 Scintillator Extrusion	121	268	\$ 389	19%	25%	23%	\$ 24	\$ 67	\$ 90	\$ 480
	2.0 WLS Fibers	350	374	\$ 724	30%	21%	25%	\$ 104	\$ 80	\$ 183	\$ 907
	3.0 Scintillator Plan Assembly	208	655	\$ 864	48%	29%	34%	\$ 99	\$ 192	\$ 292	\$ 1,155
	4.0 Clear Fiber Cables	358	727	\$ 1,085	30%	37%	35%	\$ 109	\$ 267	\$ 376	\$ 1,461
	5.0 Photomultiplier Tube Boxes	148	395	\$ 543	21%	30%	28%	\$ 31	\$ 119	\$ 150	\$ 693
	6.0 Photomultiplier Tubes	1,114	194	\$ 1,308	33%	37%	34%	\$ 367	\$ 72	\$ 439	\$ 1,747
	7.0 Electronics and DAQ	922	101	\$ 1,024	35%	40%	35%	\$ 322	\$ 41	\$ 363	\$ 1,387
	8.0 Frames, Absorbers, Coil and Detector Stand	418	133	\$ 552	31%	28%	30%	\$ 129	\$ 37	\$ 166	\$ 718
	9.0 Module and Veto Wall Assembly & Installation	160	238	\$ 398	37%	20%	27%	\$ 60	\$ 49	\$ 108	\$ 506
	10.0 Project Management	62	1,230	\$ 1,292	163%	30%	36%	\$ 101	\$ 369	\$ 470	\$ 1,762
Total MIE:		3,862	4,316	\$ 8,178	35%	30%	32%	\$ 1,346	\$ 1,291	\$ 2,637	\$ 10,815
OPC	R&D	1,587	2,794	\$ 4,382	41%	35%	37%	\$ 648	\$ 985	\$ 1,633	\$ 6,015
	Total OPC:	1,587	2,794	\$ 4,382	41%	35%	37%	\$ 648	\$ 985	\$ 1,633	\$ 6,015
	TPC:	5,449	7,110	\$ 12,559	37%	32%	34%	\$ 1,994	\$ 2,277	\$ 4,271	\$ 16,830

Notes:

Project's Current Cost & Contingency Estimate

			Base w/Indirects			Contingency Estimate		
			Labor	M&S	Total	Labor	M&S	Total
M I E	1.0	Scintillator Extrusion	76	270	\$ 347	25%	29%	28%
	2.0	WLS Fibers	333	322	\$ 655	21%	30%	25%
	3.0	Scintillator Plan Assembly	601	208	\$ 809	30%	48%	34%
	4.0	Clear Fiber Cables	693	351	\$ 1,044	37%	30%	35%
	5.0	Photomultiplier Tube Boxes	401	148	\$ 549	30%	27%	29%
	6.0	Photomultiplier Tubes	11	1,104	\$ 1,115	36%	32%	32%
	7.0	Electronics and DAQ	104	803	\$ 907	40%	34%	34%
	8.0	Frames, Absorbers, Coil and Detector Stand	121	513	\$ 634	28%	43%	40%
	9.0	Module and Veto Wall Assembly & Installation	236	159	\$ 395	21%	37%	28%
	10.0	Project Management	1,230	77	\$ 1,307	30%	191%	39%
	Total MIE:		3,806	3,956	7,761\$	30%	38%	34%
OPC	R&D		3,118	1,647	4,765	34%	37%	35%
	Total OPC:		3,118	1,647	4,765	34%	37%	35%
	TPC:		6,924	5,603	12,526			

	<i>FY06</i>	<i>FY07</i>	<i>FY08</i>	<i>FY09</i>	<i>FY10</i>	<i>Cumulative</i>
R&D						
1 Scintillator Extrusion	67	225	0	0	0	291
2 WLS Fibers	11	176	0	0	0	187
3 Scintillator Plane Assembly	129	355	35	0	0	519
4 Clear Fiber Cables	108	340	1	0	0	449
5 PMT Boxes	53	162	45	0	0	260
6 PMT Procurement and Testing	60	293	0	0	0	354
7 Electronics and DAQ	66	962	168	0	0	1,196
8 Frame, Absorbers and Stand	90	400	0	0	0	490
9 Module Assembly	92	316	76	0	0	484
10 Project Management	69	466	0	0	0	535
Funding Type-CA Totals:	744	3,696	325	0	0	4,765
Grand Totals:						
	744	3,696	325	0	0	4,765
R&D Contingency	0	1,204	75	0	0	1,279
R&D Funding Guidance	744	4,900	400	0	0	6,044
EQ DOE						
1 Scintillator Extrusion	0	0	347	0	0	347
10 Project Management	0	0	531	551	225	1,307
2 WLS Fibers	0	0	640	15	0	655
3 Scintillator Plane Assembly	0	0	379	430	0	809
4 Clear Fiber Cables	0	135	497	411	0	1,044
5 PMT Boxes	0	3	276	214	56	549
6 PMT Procurement and Testing	0	0	617	498	0	1,115
7 Electronics and DAQ	0	0	488	419	0	907
8 Frame, Absorbers and Stand	0	0	52	582	0	634
9 Module Assembly	0	0	175	220	0	395
Funding Type-CA Totals:	0	138	4,002	3,341	280	7,761
Grand Totals:						
	0	138	4,002	3,341	280	7,761
MIE Contingency	0	0	1,260	1,559	120	2,939
MIE Funding Guidance	0	0	5,400	4,900	400	10,700
Fractional R&D Contingency by Fiscal Year	0	0.33	0.23	0.00	0.00	0.27
Fractional MIE Contingency by Fiscal Year	0	0.00	0.30	0.47	0.43	0.38

Closeout Presentation Structure

- The Committee will answer the four questions from the charge.
- The Committee will document their assessment on the Scorecard that was presented.
- The Committee's conclusions and recommendations will be captured in bulleted format on a few PowerPoint slides to be presented at the Closeout.

Discussion

- Questions and Answers